Science - Grade 4 Primary

First Term - 2027

Unit 1: Nature Around Us

Lesson 1.1:
Let's Search for Living Organisms

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Learn | Living Things and Non-Living Things

In nature around us, we can observe two main groups:

Living Things:

Humans

Animals:
e.g., Dog, Frog, Bird, Grasshopper, Ant.

Plants:
e.g., Tree, Cactus, Flowers, Grass.

Non-Living Things:

e.g., Rocks, Water, Air.

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Characteristics of Living Things

Living things are distinguished from non-living things by specific characteristics, such as:

Feeding (Nutrition)

Breathing (Respiration)

Growth

Observe and Discover:

Organism / Object	Does it feed?	Does it breathe?	Does it grow?
Fennec Fox	✓	✓	✓
Cactus	✓	✓	✓
Rock	✗	✗	✗

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Habitats of Living Things

Many living things live in places near us, such as the schoolyard or surrounding areas.

Where can we find living things?

Near grass or trees:

- Food is available.
- It is easy to hide.

Under stones or in the shade of rocks:

- Places are moist (water is available).
- Places are cool (sheltered from direct sunlight).

Adapting to the Environment:

Animals like camels and fennec foxes can live in **hot, dry environments** (like deserts) by staying in:

Shade of rocks.

Underground burrows.

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Exploration Activity: Where are living things found?

Steps:

1 Predict (Guess):

Discuss where these organisms might live:

- Spider, Lizard, Scorpion: In cracks between rocks.

- Pigeon: On tree branches.

- Beetle: In flower beds or on tree roots.

2 Search (Investigate):

Go outside and check the places you predicted. If you find a living organism, observe it quietly and carefully.

3 Record:

Write down the name of the organism and the exact place where you found it.

Example:

Organism: Hoopoe

Location: On a tree branch.

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Observe
Learn
Discover!

Lesson 1.2: How Do We Observe?

Learn | Observation Rules

When observing living things closely, pay attention to their shape, color, and size.

How to Use a Magnifying Glass (Hand Lens):

1 If the object can be moved
(e.g., a leaf in your hand):

Hold the lens close to your eye, then move the object back and forth until you see a clear image.

2 If the object cannot be moved
(e.g., a tree):

Hold the lens close to your eye, then move your head/face (along with the lens) back and forth until you see a clear image.

Safety Rules:

NEVER look directly at the Sun through a magnifying glass.

Always wear protective gloves to keep your hands clean and safe.

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Activity 1 | Close Observation: Using a Magnifying Glass

Insects:

Look closely at the insect's body parts (such as small hairs or leg joints).

Plants:

Observe the plant parts (such as leaf shapes and leaf veins).

Scientific Drawing: Accuracy Over Beauty

Scientific Drawing Rules ✓	Common Mistakes ✗
• Draw with clear, thin lines.	• Do not add shadows to make it look pretty.
• Do not shade the drawing.	• Focus on real details.
• Draw the object exactly as you see it.	• If you cannot see a part well, do not guess or imagine it.

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Field Log Card Format

To prepare an Observation Record Card:

1. **Write the Title at the top.**
2. **Write the Date and your Name.**
3. **Record what you found using:**
   - **Diagram:** Simple scientific drawing using clear, thin lines (no shading).
   - **Descriptive Sentences:** Information about location, size, shape, and color.
4. **Write down what you learned or what you are curious about.**

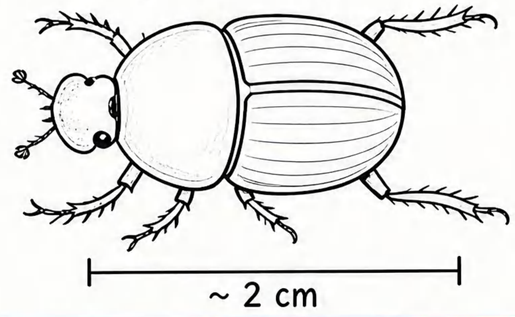
Sample Observation Card:

Title: Dung Beetle Observation

Grade: 4 / ....

Name: ....

Scientific Diagram: (A simple diagram of a dung beetle – length: ~ 2 cm)



Observation Details:

- **Length:** About 2 cm
- **Color:** Blackish
- **Shape:** Oval-shaped with long hind legs
- **Location:** On the ground near the Nile River

Additional Notes: It was rolling a perfectly round dung ball backward while standing on its head.

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Key Vocabulary Glossary | قاموس المفردات الهامة

English Term	Meaning / Explanation	المعنى بالعربية
Organism	Any living thing (human, animal, or plant)	كائن حي
Characteristics	Special qualities or features	خصائص / صفات
Nutrition	The process of obtaining food	التغذية
Respiration	Breathing in and out	التنفس
Habitat	The natural place where an organism lives	الموطن الطبيعي / البيئة
Moist	Slightly wet or damp	رطب (فيه نسبة ماء)
Adaptation	Changing behavior or body to survive in an environment	التكيف

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Key Vocabulary Glossary | قاموس المفردات الهامة (Continued)

English Term	Meaning / Explanation	المعنى بالعربية
Burrow	A hole or tunnel dug by a small animal in the ground	جُحر
Observation	Looking closely at something to gain information	الملاحظة
Magnifying Glass (Hand Lens)	A convex lens used to make objects look larger	عدسة مكبرة
Protective Gloves	Gloves worn to keep hands safe and clean	قفازات حماية
Leaf Veins	Thin lines on a leaf that transport water	عروق الورقة
Scientific Drawing	Accurate diagram drawn with thin, clear lines without shading	رسم علمي
Shading	Darkening parts of a drawing using pencil strokes	التظليل
Field Log Card	A card used to record observation details in nature	بطاقة تسجيل الملاحظات الميدانية

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Self-Assessment & Practice

Part 1: Quick Check

1 Fill in the blanks using the given words:

(Moist / Rocks / Grass)

1. Grasshoppers usually live in the .....
2. Ants often live in ..... places under stones.
3. Lizards are sometimes seen on hot .....

2 Complete the sentence:

Living things live in habitats that suit them; therefore, the types of living organisms vary depending on the .....

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Self-Assessment & Practice - Part 1: Quick Check (Continued)

Put a tick (✓) for true statements and a cross (✗) for false statements about using a magnifying glass:

( ) Hold the lens far from your eye and look through it.

( ) When observing a tree, move your face back and forth to get a clear image.

( ) Look directly at the Sun through the magnifying glass.

Choose the correct method for scientific drawing:

☐ A) Add shading to make the drawing look attractive.

☐ B) Draw the object exactly as seen using thin, clear lines.

☐ C) Imagine and draw parts that you cannot see clearly.

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Self-Assessment & Practice - Part 2: Practice & Application

1 **Where is it easiest to find living organisms in a hot and dry environment like Egypt? (Select all correct answers)**

- ☐ **A)** In the middle of hot sand under direct sunlight.
- ☐ **B)** In cool places in the shade of large rocks or stones.
- ☐ **C)** Near roots where some grass grows.

2 **Complete the sentences using the appropriate words:**

(Moisture / Hiding / Food)

- **Near grass or trees:** Places where _____ is available or places that make _____ easy.
- **Under stones or in rock shade:** Places where _____ is available or cool places away from sunlight.

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Self-Assessment & Practice - Part 2 (Continued)

Indicate True (✓) or False (✗) regarding hand lens safety and usage:

( ) Holding the lens near the eye and looking directly at the Sun.

( ) To observe a leaf in hand, hold the lens near the eye and move the leaf back and forth.

( ) When an object cannot move, hold the lens far from the eye and extend your arm.

Which 3 items MUST be included in an Observation Field Log Card besides the diagram? (Select 3 correct answers)

- ☐ Date
- ☐ Location where the organism was found
- ☐ Color and shape of the organism
- ☐ What you had for dinner yesterday
- ☐ Your favorite colors and shapes

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